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the fabric comprising a number of crossing points of warp and weft in a range of from 2,000 to 70,000/m², warp and weft yarns substantially free from twist, a width of 3 to 20 mm and a flatness as defined by a ratio of yarn width to yarn thickness of at least 20, the prepreg having a cover factor of at least 90% and wherein an amount of the binder used is within about 0.5 to 15 g/m².

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Please add the following new claim:

E2

40. (New) The cloth prepreg of claim 22, wherein the woven fabric is a single woven fabric.

REMARKS

A Petition for Extension of Time for one month extending the period for response from November 27, 2001 to December 27, 2001 is attached.

Claim 22 is amended by adding the limitation of claim 36, now canceled. The amendment of claim 22 is not to overcome the prior art rejection, but to further the prosecution of this case.

The Examiner has rejected claims 22-28 as being obvious over Kishi in view of Homma '713. The Examiner's reasoning is that Kishi discloses the prepreg of this invention, but not to apply the binder in a line-like manner. The Examiner then states in paragraph 4 of the Action that "Homma teaches applying the binder in a line-like manner (col. 6, line 54)." Therefore, according to the Examiner, it would have been obvious to use the line-like binder of Homma on the prepreg of Kishi. This rejection is respectfully traversed.

Foremost, the Examiner's understanding that "Homma teaches applying the binder in a line-like manner" in column 6, line 54, is *incorrect* as explained in Mr. Oosedo's attached Declaration. Mr. Oosedo is *a person of ordinary skill* in the art of fiber reinforced composite materials as explained in his Declaration.

The portion of Homma that the Examiner has relied upon relates to the "integration of the reinforced woven fabrics". See column 6, line 47 of Homma. The term "integration" in Homma means "integrating a plurality of reinforcing woven fabrics to each other." Column 6, lines 16 and 17, of Homma. This "integration" problem of Homma is totally different from the problem of the low cover factor using thick yarns, as of this invention. As explained in Mr. Oosedo's Declaration, the phrase "bonding by lines" in Homma relates to *stitching* a plurality of reinforcing woven fabrics, *not* to incorporating a binder distributed in a line-like manner on the fabric to maintain yarn flatness as in this invention.

In addition, Mr. Oosedo explains that the problem solved by this invention neither occurred in the inventions of Homma and Kishi nor was it recognized by a person of ordinary skill in this art prior to this invention. Also, as explained in Mr. Oosedo's Declaration, the solutions of Homma and Kishi do not relate to incorporating a binder distributed in a line-like manner on the fabric to maintain yarn flatness as in this invention.

Please note that Mr. Oosedo refers to Mr. Nishimura's Declaration of November 8, 2001, which is primarily being submitted for the data in Table 1. On the other hand, Mr. Oosedo's Declaration is being submitted to explain what the prior art teaches to a person of ordinary skill in this art.

The Examiner's presumption was that "Homma teaches applying a binder in a line-like manner ... [and it] would have been obvious to a person having ordinary skill in the art to use the

line-like binder of Homma in the fabric of Kishi.” See paragraph 4 of the Action. Mr. Oosedo, a person of ordinary skill in this art, has overcome this presumption by explaining in his Declaration that this position of the Examiner is incorrect. At this point, Applicants submit that the Examiner should rely upon Mr. Oosedo’s Declaration. “An affidavit submitted to overcome a rejection is intended to be relied upon. ... [A]rguing that an affidavit submitted to persuade was defective as presenting only opinion, not fact, and that it should be discounted, qualifies only for a chutzpah award, not a reversal.” *Refac International, Ltd. v. Lotus Development Corporation*, 81 F.3d 1576; 38 USPQ2d 1665 (Fed. Cir. 1996); citations omitted.

It is well-established law that the *solution* to a problem, once known, is often obvious even when the *recognition* of the *problem* itself or of the source of the problem is not. *Eibel Process Co. v. Minnesota and Ontario Paper Co.*, 261 U.S. 45 (1923), established the rule that *the discovery of the source of a problem may result in a patentable invention despite the fact that the solution would have been obvious once the source of the problem was discovered*. Also, the court in *In re Nomiya*, 184 USPQ 607, 612 (CCPA 1975), stated:

It should not be necessary for this court to point out that *a patentable invention may lie in the discovery of the source of a problem* even though the remedy may be obvious once the source of the problem is identified. This is part of the “subject matter as a whole” which should always be considered in determining the obviousness of an invention under 35 U.S.C. 103. [Emphasis added.]

In this invention, the *unexpected problem* was the low cover factor of a prepreg made from a dry fabric having a high cover factor. The *solution* in this invention was incorporating a binder distributed in a line-like manner on the fabric to maintain yarn flatness.

Persons of ordinary skill prior to this invention knew neither the problem nor the solution of this invention. Therefore, in accordance with *Eibel* and *Noyima*, even if the solution of this invention might seem "obvious" based on hindsight gained from this invention, this invention is still patentable because *Applicants were the first to discover the problem solved by this invention*. In short, Homma and Kishi, *as a whole*, not just individually, would not have rendered obvious the claimed invention.

With respect to new dependent claim 40, please note that "a single woven fabric" is supported by the examples, which disclose the use of a single woven fabric to make the prepreg. Also, "a single woven fabric" clearly distinguishes claim 40 from Homma, which only discloses the use of multiple woven fabric.

All claims, therefore, are in condition for allowance and a notice thereof is solicited.

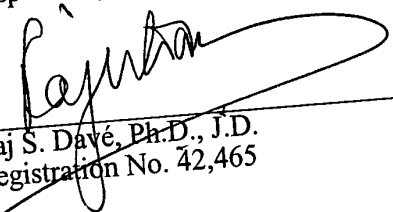
Attached is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event that the transmittal letter is separated from this document and the Patent & Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952, referencing 360842003400. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: December 17, 2001

Respectfully submitted,

By:


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Attachments: Declarations of A. Nishimura and H. Oosedo

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Please cancel claim 36 without prejudice or disclaimer.

22. (Thrice Amended) A cloth prepreg made by a wet process comprising a woven fabric impregnated with a resin and a binder distributed in a line-like manner on the fabric to maintain yarn flatness,

the fabric comprising a number of crossing points of warp and weft in a range of from 2,000 to 70,000/m², warp and weft yarns substantially free from twist, a width of 3 to 20 mm and a flatness as defined by a ratio of yarn width to yarn thickness of at least 20,

the prepreg having a cover factor of at least 90% and

wherein an amount of the binder used is within about 0.5 to 15 g/m².

Please add the following new claim:

40. (New) The cloth prepreg of claim 22, wherein the woven fabric is a single woven fabric.